Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL GUIDELINE CLEARINGHOUSE

General

Guideline Title

Clinical practice guideline on perioperative care in major abdominal surgery.

Bibliographic Source(s)

Work Group of the Clinical Practice Guidelines on Perioperative Care in Major Abdominal Surgery. Clinical practice guideline on perioperative care in major abdominal surgery. Madrid (Spain): Aragon Institute for Health Sciences; 2016. 116 p. [131 references]

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

NEATS Assessment

National Guideline Clearinghouse (NGC) has assessed this guideline's adherence to standards of trustworthiness, derived from the Institute of Medicine's report Clinical Practice Guidelines We Can Trust.

 = Poor  = Fair  = Good  = Very Good  = Excellent

Assessment	Standard of Trustworthiness
YES	Disclosure of Guideline Funding Source
	Disclosure and Management of Financial Conflict of Interests
	Guideline Development Group Composition
YES	Multidisciplinary Group
YES	Methodologist Involvement

	Patient and Public Perspectives
	Use of a Systematic Review of Evidence
	Search Strategy
	Study Selection
	Synthesis of Evidence
	Evidence Foundations for and Rating Strength of Recommendations
	Grading the Quality or Strength of Evidence
	Benefits and Harms of Recommendations
	Evidence Summary Supporting Recommendations
	Rating the Strength of Recommendations
	Specific and Unambiguous Articulation of Recommendations
	External Review
	Updating

Recommendations

Major Recommendations

Levels of evidence (1++ to 4) and grades of recommendation (A to D, GCP) are defined at the end of the "Major Recommendations" field.

Preoperative Measures

Information for Patients

In patients who are going to undergo abdominal surgery, does information on the process (via clinic) help reduce the length of hospital stays?

GCP - Oral and written information should be given to patients who are going to undergo major abdominal surgery, describing what will take place during the entire hospital stay, resolving any doubts and making the patient a participant in the surgical process.

GCP - It is recommended that the information that is communicated to the patient who is going to undergo major abdominal surgery be agreed upon previously by a multi-disciplinary team to promote a comprehensive understanding of the surgical process.

Nutritional Screening

In patients who are going to undergo abdominal surgery, does the study of the state of the patient's nutritional state reduce postoperative complications (morbi-mortality)?

D - Nutritional screening of all patients who are going to undergo major abdominal surgery is recommended.

GCP - The assessment of the patient's nutritional state should be done during the preoperative visit to allow sufficient time for the nutritional support teams present in each centre to take the necessary measures based on the results of the assessment.

GCP - It is recommended that nutritional treatment be initiated during the preoperative period in all patients identified as being at risk of malnutrition during the nutritional screening.

Carbohydrate Drinks

In patients who are going to undergo elective major abdominal surgery, does the administration of carbohydrate drinks (two hours before surgery), versus not administering anything, reduce postoperative complications? Does it shorten hospital stays?

B - In non-diabetic patients who are going to undergo elective major abdominal surgery, the administration of 200 to 400 mL of a carbohydrate drink that contains at least 50 g of glucose, up to 2 hours prior to the surgical procedure, is recommended.

B - In non-diabetic patients who are going to undergo elective major abdominal surgery, it must be taken into account that the administration, up to 2 hours prior to surgery, of clear carbohydrate liquids is safe, not associated with any harmful effects for patients, such as vomiting or aspiration pneumonitis.

Anaesthetic Premedication

In patients who are going to undergo elective major abdominal surgery, is there any evidence to support that not giving preanaesthetic medication can reduce or prevent postoperative ileus?

B - The use of intermediate or long-acting sedative and/or anxiolytic premedication in patients who undergo major abdominal surgery is not recommended.

GCP - In cases in which the administration of anxiolytic premedication is deemed necessary, short-acting benzodiazepines (BDZs) are recommended.

Intraoperative Measures

Enhanced Recovery After Abdominal Surgery (ERAS) and Laparoscopic Surgery

In patients who undergo elective major abdominal surgery, do the following interventions reduce morbi-mortality and hospital stays when compared with the use of laparoscopy and conventional perioperative care?

Laparoscopy + ERAS
Laparotomy + ERAS

B - In patients who are going to undergo elective colorectal surgery, the laparoscopic approach is recommended, in combination with the application of an intensified abdominal surgery recovery program.

Perioperative Measures

Fluid Therapy

In patients who undergo elective major abdominal surgery, does the use of a goal-directed fluid therapy algorithm, versus restrictive fluid therapy, reduce postoperative complications? Does it shorten postoperative ileus? Does it shorten hospital stays?

A - Colorectal surgery that falls within the scope of a program of enhanced recovery after abdominal surgery (ERAS) should include a personalized fluid therapy plan for each patient.

GCP - Abdominal surgery that falls within the scope of an ERAS program should include a personalized fluid therapy plan for each patient.

B - In patients who undergo colorectal surgery, the use of a haemodynamic goal-directed fluid therapy algorithm is suggested when the necessary human and technical resources are available.

B - In patients with low surgical risk (American Society of Anesthesiologists [ASA] I or II) who undergo colorectal surgery within the scope of an ERAS program, evaluate the possibility of applying an intraoperative fluid handling strategy with a balance close to zero.

Analgesia

In patients who undergo elective major abdominal surgery, is transversus abdominis plane (TAP) block more effective and safer than epidural analgesia?

Scientific evidence is insufficient to support a recommendation in favour of or against the use of TAP block for postoperative analgesia in major abdominal surgery.

B - If the TAP technique is used for postoperative analgesia, it should be applied via catheter with continuous perfusion.

Postoperative Measures

Early Reinitiation of Oral Feeding

In patients who undergo elective major abdominal surgery, does the early administration of oral nutrition versus not administering anything shorten postoperative ileus?

B - In patients who have undergone colorectal surgery, surgery of the small intestine, or gynaecological abdominal surgery, it is recommended that oral ingestion of liquids and solids begin as soon as possible, based on the tolerance of the patient, preferably within the first 24 hours after the surgical procedure, with the possibility of resuming oral feeding starting 4 hours after surgery.

Early Mobilization

In patients who undergo elective major abdominal surgery, does early mobilization (getting out of bed within the first 6 hours) versus remaining in bed shorten postoperative ileus?

D - Implement a plan of perioperative care that promotes early and progressive mobilization of the patient, getting the patient out of bed on the same day of the surgery, and starting to walk within the first 24 hours following the surgery.

Definitions

Scottish Intercollegiate Guidelines Network (SIGN) Levels of Evidence

1++	High-quality meta-analyses, systematic reviews of clinical trials or high-quality clinical trials with very low risk of bias
1+	Well-conducted meta-analyses, systematic reviews of clinical trials, or well-conducted clinical trials with little risk of bias
1-	Meta-analyses, systematic reviews of clinical trials or clinical trials with a high risk of bias
2++	High-quality systematic reviews of case-control or cohort studies. High-quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal
2+	High-quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal
2-	Cohort or case-control studies with high risk of bias and a significant risk that the relationship is not causal
3	Non-analytic studies, such as case reports and case series
4	Expert opinion

Note: Studies classified as 1- and 2- must not be used for making recommendations due to their high potential for bias.

SIGN Grades of Recommendation

A	At least one meta-analysis, systematic review or clinical trial rated as 1++ and directly applicable to the target population of the guide; or a body of evidence consisting of studies rated as 1+ and showing overall consistency of results
B	A body of evidence consisting of studies rated as 2++, directly applicable to the target population of the guide and showing overall consistency of results; or evidence extrapolated from studies rated as 1++ or 1+
C	A body of evidence consisting of studies rated as 2+ directly applicable to the target population of the guide and showing overall consistency of results; or evidence extrapolated from studies rated as 2++
D	Evidence levels 3 or 4; or evidence extrapolated from studies rated as 2+
Good Clinical Practice (GCP)*	Recommended practice based on clinical experience and consensus of the editorial team

*Sometimes the development group wishes to highlight an important practical aspect for which there is probably no supporting evidence. In general, these cases are related to an aspect of treatment generally accepted to be good clinical practice and that would not normally be questioned by anyone. These aspects are evaluated as a point of good clinical practice. These messages are not an alternative to the recommendations based on evidence, but should be considered only when there is no other way of highlighting that aspect.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Pathological intra-abdominal processes that require non-urgent (elective) major surgery

Guideline Category

Management

Rehabilitation

Treatment

Clinical Specialty

Anesthesiology

Colon and Rectal Surgery

Gastroenterology

Internal Medicine

Obstetrics and Gynecology

Oncology

Surgery

Urology

Intended Users

Advanced Practice Nurses

Dietitians

Nurses

Patients

Physician Assistants

Physicians

Guideline Objective(s)

To serve as an instrument to improve the care of patients who undergo an elective major surgical procedure with abdominal involvement

Note: This indication includes some of the following procedures: colorectal surgery, gastrectomy, gastric bypass, hysterectomy, prostatectomy, cystectomy, other oncological, gynaecological, and urological surgery, etc. In this sense, the guidelines cover patients from different surgical specializations, such as general surgery, urological, and gynaecological surgery.

Target Population

All patients older than 18 years of age with pathological intra-abdominal processes that require non-urgent (elective) major surgery

Note: The scope of this clinical practice guideline (CPG) does not cover emergency surgery, outpatient surgery, and vascular surgery.

Interventions and Practices Considered

1. Oral and written information for patients
2. Nutritional screening
3. Nutritional treatment
4. Carbohydrate drinks
5. Anaesthetic premedication (short-acting benzodiazepines)
6. Laparoscopic surgery
7. Enhanced recovery after abdominal surgery
8. Personalized fluid therapy
9. Use of a haemodynamic goal-directed fluid therapy algorithm
10. Intraoperative fluid handling strategy
11. Analgesia
12. Early reinitiation of oral feeding
13. Early mobilization

Note: The following was considered but not recommended: Intermediate or long-acting sedative and/or anxiolytic premedication.

Major Outcomes Considered

- Length of hospital stay
- Postoperative complications

- Morbidity
- Mortality
- Postoperative ileus

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Searches of Unpublished Data

Description of Methods Used to Collect/Select the Evidence

The principal stages involved in the preparation process are described below:

> Preparation of the clinical questions followed the PICO format (Patient/Intervention/Comparison/Outcome).
> Bibliography search, with de novo preparation of strategies for all questions. The sources consulted were MEDLINE (access via PubMed), EMBASE (Elsevier.com), Centre for Reviews and Dissemination (CRD) Databases, The Cochrane Library, Índice Bibliográfico Español en Ciencias de la Salud (IBECs), and Literatura Latinoamericana y del Caribe en Ciencias de la Salud (LILACs). The searches were limited to the types of studies that were most suitable based on the characteristics of the question and the languages of Spanish, French, and English. The search period covered from 2000 to 2014, through the months between May and July. Also, automatic email alerts were configured for new articles added to MEDLINE, EMBASE and The Cochrane Library after July 2014. A reverse search was done in the references of the articles identified and included in the guidelines. A non-systematic search of grey literature was also done.
> Initially, the studies that were returned were screened by title and abstract. In a second screening, the discarded studies were recorded and the causes for exclusion were specified.

The methodology used to prepare this CPG is included in the *Methodology Manual for Drafting CPGs in the National Health System (NHS)* (see the "Availability of Companion Documents" field).

Number of Source Documents

Refer to the Methodological Material document (see the "Availability of Companion Documents" field) for a breakdown of the studies identified and included for each clinical question.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Scottish Intercollegiate Guidelines Network (SIGN) Levels of Evidence

1++	High-quality meta-analyses, systematic reviews of clinical trials or high-quality clinical trials with very low risk of bias
1+	Well-conducted meta-analyses, systematic reviews of clinical trials, or well-conducted clinical trials with little risk of bias
1-	Meta-analyses, systematic reviews of clinical trials or clinical trials with a high risk of bias
2++	High-quality systematic reviews of case-control or cohort studies. High-quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal
2+	High-quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal
2-	Cohort or case-control studies with high risk of bias and a significant risk that the relationship is not causal
3	Non-analytic studies, such as case reports and case series
4	Expert opinion

Note: Studies classified as 1- and 2- must not be used for making recommendations due to their high potential for bias.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The principal stages involved in the preparation process are described below:

> Evaluation of the quality of the studies and summary of the evidence for each question using the critical reading tool of the Agency for Healthcare Technology Assessment of the Basque Country (OSTEBA).

The methodology used to prepare this clinical practice guideline (CPG) is included in the *Methodology Manual for Drafting CPGs in the National Health System (NHS)* (see the "Availability of Companion Documents" field).

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

The principal stages involved in the preparation process are described below:

> Creation of a guideline working group made up of 11 healthcare professionals from different disciplines in the area of hospital care, from different regions and different specializations (general surgery, nursing, anaesthesiology, endocrinology and nutrition, urology) and 2 specialists in methodology from the Institute of Health Sciences of Aragon (IACS). To prepare the material aimed at patients, family members, and caregivers, the Work Group was assisted by a patient who had undergone major abdominal surgery (MAS) and had participated in an enhanced recovery after abdominal surgery (ERAS) program. Also, the information aimed at patients, family members, and caregivers was revised by three non-medical persons to ensure that it was suitable and understandable.
> Formulation of recommendations based on the "formal evaluation" or "justified opinion" of the Scottish Intercollegiate Guidelines Network (SIGN). The classification of the evidence and the

grading of the recommendations were done using the system proposed by SIGN. In addition to the volume and quality of the evidence, the guideline working group (GWG) had to consider the applicability of the results found, the concordance of the results, and the relevance of their application to the National Health System, or their clinical impact. Recommendations that were controversial or that lacked evidence were resolved by consensus in two meetings of the working group.

The methodology used to prepare this CPG is included in the *Methodology Manual for Drafting CPGs in the National Health System (NHS)* (see the "Availability of Companion Documents" field).

Rating Scheme for the Strength of the Recommendations

Scottish Intercollegiate Guidelines Network (SIGN) Grades of Recommendation

A	At least one meta-analysis, systematic review or clinical trial rated as 1++ and directly applicable to the target population of the guide; or a body of evidence consisting of studies rated as 1+ and showing overall consistency of results
B	A body of evidence consisting of studies rated as 2++, directly applicable to the target population of the guide and showing overall consistency of results; or evidence extrapolated from studies rated as 1++ or 1+
C	A body of evidence consisting of studies rated as 2+ directly applicable to the target population of the guide and showing overall consistency of results; or evidence extrapolated from studies rated as 2++
D	Evidence levels 3 or 4; or evidence extrapolated from studies rated as 2+
Good Clinical Practice (GCP)*	Recommended practice based on clinical experience and consensus of the editorial team

*Sometimes the development group wishes to highlight an important practical aspect for which there is probably no supporting evidence. In general, these cases are related to an aspect of treatment generally accepted to be good clinical practice and that would not normally be questioned by anyone. These aspects are evaluated as a point of good clinical practice. These messages are not an alternative to the recommendations based on evidence, but should be considered only when there is no other way of highlighting that aspect.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

The external reviewers reviewed the first draft of the clinical practice guideline (CPG). The expert collaborators participated in the review of the recommendations. The review resulted in the introduction of minor changes in one recommendation, aimed at improving its feasibility.

The scientific societies involved in the development of these guidelines, represented by members of the working group, expert collaborators, and external reviewers were the Spanish Society of Anaesthesiology, Reanimation, and Pain Therapy (SEDAR), the Spanish Multimodal Rehabilitation Group (GERM), the Spanish Association of Surgeons (AEC), the Spanish Association of Coloproctology (AECP), the Spanish Association of Urology (AEU), the Spanish Association of Surgical Nursing (AEEQ), the Spanish Society of

Gynaecology and Obstetrics (SEGO), and the Spanish Society of Parenteral and Enteral Nutrition (SENPE).

The methodology used to prepare this CPG is included in the *Methodology Manual for Drafting CPGs in the National Health System (NHS)* (see the "Availability of Companion Documents" field).

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Improving the quality of care and thus optimizing postoperative recovery and rehabilitation
- Unifying the many different interventions related to perioperative care and reducing unjustified variability in clinical practice

Refer to the original guideline document for information about the benefits of specific interventions observed in the studies that were reviewed for this guideline.

Potential Harms

Adverse effects of interventions

Refer to the original guideline document for information about the harms of specific interventions observed in the studies that were reviewed for this guideline.

Contraindications

Contraindications

The European Medicines Agency (EMA) recommends avoiding the use of hydroxyethyl starch (HES) in patients with sepsis and renal insufficiency because an increase in renal damage has been demonstrated when they are used in the post-resuscitation phase of critical patients in the intensive care unit (ICU). But in the context of perioperative treatment of surgical patients, there is some uncertainty regarding the long-term safety of HESs. The Guideline Work Group (GWG) does not consider HESs to be contraindicated in the treatment of surgical patients, provided that the precautions for their use are respected, which means that the applicability of the results of these studies is not compromised.

Qualifying Statements

Qualifying Statements

This clinical practice guideline (CPG) is intended as an aid to decision-making in healthcare. The guidelines are not mandatory, nor do they take the place of the clinical judgement of healthcare staff.

Implementation of the Guideline

Description of Implementation Strategy

Diffusion and Implementation

The clinical practice guideline (CPG) is a tool to assist professionals and users to make decisions regarding the most appropriate health care. The introduction and implementation of the recommendations in these guidelines in the healthcare sectors in which their application is pertinent is therefore necessary. The following strategies are recommended to do this:

Presentation of the CPG by the healthcare authorities to the communication team.
Presentation of the guidelines to the directorates and deputy directorates of Specialized Care of the different regional health services.
Institutional presentation of the guidelines to the different scientific societies and associations involved.
Collaboration with the scientific societies and associations that participated in the review of the CPG, to promote dissemination.
Sending the CPG to the different databases that collect information on CPGs, for evaluation and inclusion.
Free access to the different versions of the CPG at the GuíaSalud Web site .
Dissemination and information on the CPG at scientific activities related to enhanced recovery in abdominal surgery, general surgery, and surgery of the digestive tract, anaesthesiology and reanimation, urology, gynaecology, and nursing.
Publication of the guidelines in medical magazines.
Translation of the complete version into English.

For the implementation of the recommendations of the guidelines, the methodology included in the *Methodological Manual for the Implementation of Clinical Practice Guidelines in the National Health System* is proposed. A multidisciplinary team should be created to assume the coordination and leadership of the process. This team will prepare the planning of the implementation, which should include the diagnosis of the practical situation in regard to the recommendations to be implemented, the analysis of potential barriers and facilitating elements, the design and implementation of intervention strategies, as well as the design of a plan that makes it possible to evaluate the development of the implementation process itself, as well as the degree of adjustment and results of the clinical practices.

Implementation Tools

Foreign Language Translations

Mobile Device Resources

Patient Resources

Quick Reference Guides/Physician Guides

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality

Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Work Group of the Clinical Practice Guidelines on Perioperative Care in Major Abdominal Surgery. Clinical practice guideline on perioperative care in major abdominal surgery. Madrid (Spain): Aragon Institute for Health Sciences; 2016. 116 p. [131 references]

Adaptation

Not applicable: The guideline is not adapted from another source.

Date Released

2016

Guideline Developer(s)

Aragon Institute for Health Sciences - State/Local Government Agency [Non-U.S.]

GuiaSalud - National Government Agency [Non-U.S.]

Ministry of Health (Spain) - National Government Agency [Non-U.S.]

Guideline Developer Comment

Corporate Collaborators

- Specialist in General Spanish Association of Surgeons (AEC)
- Spanish Association of Coloproctology (AECP)
- Spanish Association of Surgical Nursing (AEEQ)
- Spanish Association of Urology (AEU)
- Spanish Multimode Rehabilitation Group (GERM)
- Spanish Society of Anaesthesiology, Reanimation, and Pain Therapy (SEDAR)
- Spanish Society of Nursing in Surgery (SEECir)
- Spanish Society of Gynaecology and Obstetrics (SEGO)
- Spanish Society for Parenteral and Enteral Nutrition (SENPE)

Members of these societies participated in the authorship, expert collaboration, and external review of the clinical practice guideline (CPG).

Source(s) of Funding

This document was produced under the collaboration agreement signed by the Institute of Health Carlos III, an autonomous entity of the Ministry of Economy and Competitiveness, and the Institute of Health Sciences of Aragon (IACS), as part of the development of activities of the Spanish Network of Agencies for Health Technology Assessment and NHS benefits, funded by the Ministry of Health, Social Services and Equality.

Guideline Committee

Work Group of the Clinical Practice Guidelines on Perioperative Care in Major Abdominal Surgery

Composition of Group That Authored the Guideline

Work Group Members: Antonio Arroyo Sebastián, Doctor of Medicine, Specialist in General Surgery and Surgery of the Digestive Tract, Hospital General Universitario de Elche, Elche; José María Calvo Vecino, Doctor of Medicine, Specialist in Anaesthesia and Reanimation, Hospital Universitario Infanta Leonor, Madrid; Rubén Casans Francés, Doctor of Medicine, Specialist in Anaesthesia and Reanimation, Hospital Clínico Universitario Lozano Blesa, Zaragoza; Emilio del Valle Hernández, Doctor of Medicine, Specialist in General Surgery and Surgery of the Digestive Tract, Hospital General Universitario Gregorio Maranon, Madrid; Patricia Gavín Benavent, Doctor of Medicine, Specialist in Microbiology and Parasitology, Institute of Health Sciences of Aragon, Zaragoza; María Jesús Gil Sanz, Doctor of Medicine, Urology Specialist, Hospital Universitario Miguel, Servet, Zaragoza; Juan Ignacio Martín Sánchez, Doctor of Medicine, Specialist in Preventive Medicine and Public Health, Institute of Health Sciences of Aragon, Zaragoza; Javier Martínez Ubieto, Doctor of Medicine, Specialist in Anaesthesia and Reanimation, Hospital Universitario Miguel Servet, Zaragoza; Carmen Gloria Nogueiras Quintas, Nurse, Hospital Universitario de Fuenlabrada, Fuenlabrada; María Julia Ocón Bretón, Doctor of Medicine, Specialist in Endocrinology and Nutrition, Hospital Clínico Universitario Lozano Blesa, Zaragoza; José Manuel Ramírez Rodríguez, Doctor of Medicine, Specialist in General Surgery and Surgery of the Digestive Tract, Hospital Clínico Universitario Lozano Blesa, Zaragoza; Pablo Royo Dachary, Doctor of Medicine, Specialist in General Surgery and Surgery of the Digestive Tract, Hospital Clínico Universitario Lozano Blesa, Zaragoza; Jorge Subirá Ríos, Doctor of Medicine, Urology Specialist, Hospital Clínico Universitario Lozano Blesa, Zaragoza

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Expert Collaboration

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External Review

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Financial Disclosures/Conflicts of Interest

All members of the Work Group, as well as those who have participated in the expert collaboration and external review, made the declaration of interest below.

Declaration of Interests

The following members of the preparation group have declared that they have no conflicts of interests:

Antonio Arroyo Sebastián, José María Calvo Vecino, Patricia Gavín Benavent, Javier Martínez Ubieto, Carmen Gloria Nogueiras Quintas, Pablo Royo Dachary, Jorge Subira Ríos.

Rubén Casans Francés, has been paid professional fees by Merck Sharp & Dohme (MSD) for presentations.

Emilio Del Valle Hernández, has received funding from MSD to attend meetings, congresses, and courses.

Mª Jesús Gil Sanz, has received financing from Astellas and Ipsen to attend meetings, congresses, and courses, and has received professional fees from Abbvie y Janssen for presentations. Juan Ignacio Martín Sánchez has received funding from MSD to attend meetings, congresses, and courses.

Mª Julia Ocón Bretón, has received financing from Braun, Fresenius, Nutricia, Nestle, Sanofi, MSD, to attend meetings, congresses, and courses, has received professional fees from Abbott, Fresenius, Nutricia for presentations.

José Manuel Ramírez Rodríguez, has received professional fees from MSD for presentations, and has received economic aid for the financing of a research study from the Universidad de Zaragoza and IACS.

The following external reviewers have declared that they have no conflicts of interests: Fernando Gilsanz Rodríguez, Luis Martos García, José Luis Matute Mínguez, Carlos Moreno Sanz, José Vicente Roig Vila.

Alfredo Abad Gurumeta, has received financing from Edwards Lifesciences, MSD, Abbvie and Berins & Co. to attend congresses, and professional fees as a speaker from MSD. He has also received financing from MSD to take courses, and professional fees as a consultant for the company Altan Pharma.

Cristina de la Cuerda Compes has received financing from Nestle Health Science to attend a congress, professional fees as a speaker, and financing for participating in a research study. She has also received financing from Vegenat and Nutricia to take courses, and professional fees as a consultant for Shire. Alfredo Rodríguez Antolín has received financing from Astellas Pharma, Janssen Pharmaceutica and Ipsen to attend congresses. He has received financing from the Foundation for Biomedical Research of the Hospital Universitario 12 de Octubre to take a course for the unit, and economic aid to hire staff in the unit or service.

The following expert collaborators have declared that they have no conflicts of interests: Luis Enrique Muñoz Alameda and Luis Quecedo Gutiérrez.

Francisco Faus Gabandé, has received financing from the Universidad de Valencia to attend meetings, congresses, and courses.

Emilia Victoria Guasch Arévalo, has received financing from Behring financing to attend a congress and professional fees as a speaker. She has also received professional fees as a consultant for MSD and financing to take a course in her unit.

Juan José Hernández Aguado, has received financing from Roche to attend meetings, congresses, and courses. He has received professional fees as a speaker from Pfizer, Sanofi and Amgen.

Carmelo Loinaz Segurola has received financing from The Transplantation Society and Novartis to attend a congress and professional fees from Shire, Biotest Medical SLU, Fundación Oncosur, Roche, Vegenat, and MSD for presentations.

Manuel Romero Simó, has received financing from Ethicon to attend a congress.

Victoriano Soria Aledo, has received financing from Sanofi to attend a meeting.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Available in English and Spanish from the GuíaSalud Web site.

Availability of Companion Documents

The following are available:

Quick reference guides and summary versions are available in Spanish from the GuíaSalud Web site.

Methodological material. Madrid (Spain): Aragon Institute for Health Sciences (IACS); 2016. 172 p. Available in Spanish from the GuíaSalud Web site.

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The Spanish version of the guideline is also available via a mobile application from the GuíaSalud Web site .

Patient Resources

Patient information can be found in the Annex of the original guideline document . A Spanish version is also available from the GuíaSalud Web site .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI Institute on May 3, 2018. The information was verified by the guideline developer on May 22, 2018.

This NEATS assessment was completed by ECRI Institute on May 9, 2018. The information was verified by the guideline developer on May 22, 2018.

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